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IN THE

Supreme Court of the United States

QUANTA COMPUTER, INC., ET AL.,
Petitioners,

v.

LG ELECTRONICS, INC.,
Respondent.

ON WRIT OF CERTIORARI
TO THE UNITED STATES COURT OF APPEALS
FOR THE FEDERAL CIRCUIT

BRIEF FOR IBIQUITY DIGITAL CORPORATION AS AMICUS CURIAE SUPPORTING RESPONDENTS

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INTEREST OF AMICUS CURIAE

iBiquity Digital Corporation ("iBiquity") is the developer of HD Radio™ technology for digital AM and FM radio.[1] This breakthrough technology allows broadcasters to transmit analog AM and FM radio signals simultaneously with new, higher-quality digital signals. The Federal Communications Commission has adopted iBiquity's HD Radio In-Band, On-Channel ("IBOC") system for AM and FM digital radio broadcasting in the United States.

Although the development of HD Radio technology took more than fifteen years and cost more then $100 million, commercial use began only four years ago. On January 7, 2003, Detroit station KISS 102.7 FM broadcast the first commercial HD Radio signal. In January 2004, a consumer in Cedar Rapids, Iowa purchased the first commercial HD Radio receiver.

As of December 2007, more than 1,500 HD Radio stations were on the air, including stations in every major U.S. city. More than 80 percent of the U.S. population resides within the broadcasting range of one or more HD Radio stations. More than 50 different home and automotive HD Radio products are now available to consumers. Countries throughout the world, including Argentina,

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[1] Pursuant to Rule 37.6, amicus affirms that no counsel for a party authored this brief in whole or in part and that no person other than amicus and its counsel made a monetary contribution to its preparation or submission. The parties' letters consenting to the filing of amicus briefs have been filed with the Clerk.

Australia, Bosnia, Brazil, Canada, Czech Republic, France, Germany, Hong Kong, Indonesia, Mexico, New Zealand, Philippines, Poland, Switzerland, Thailand and Ukraine, have tested or are testing HD Radio broadcasting.

The rapid and widespread commercialization of HD Radio technology is directly tied to iBiquity's business model. iBiquity does not manufacture HD Radio receivers or broadcast equipment. Instead, it licenses its numerous patents, software copyrights, and know-how to others, including experienced manufacturing companies that are in the best position to bring this new technology to market.

Each of iBiquity's licensees – especially those that took early licenses – had to consider the risks of entering a new and unproven market for digital AM and FM, including the possibility that HD Radio technology would not be commercially successful. Through its licensing structure, iBiquity spread this risk across two levels in the manufacturing chain, thus reducing the risk borne by any one party.

At one manufacturing level, iBiquity licenses chip makers to manufacture semiconductor devices that are an important component of every HD Radio receiver, and to use the chips solely for testing purposes. Chip makers are not granted rights to make HD Radio receivers or to sell licensed chips. Rather, they are granted a right to sub-license their use rights when transferring physical possession of the chips. iBiquity collects a royalty from the chip makers for each sub-licensed chip.

At the next level of the manufacturing chain, iBiquity licenses receiver manufacturers to make,

use, and sell HD Radio receiver products incorporating chips from licensed chip makers. iBiquity receives a royalty for each HD Radio receiver sold by licensed receiver manufacturers.

iBiquity believes that an examination of its patent licensing structure, and the reasons for it, may assist the Court in analyzing the issues in this case by demonstrating that a multi-level licensing structure can generate procompetitive benefits for licensees, consumers, and the general economy.

STATEMENT

1. iBiquity and HD Radio Technology. iBiquity is the developer of HD Radio technology, which has been described as "radio's most dramatic technological leap since FM broadcasting debuted more than 50 years ago." Dina ElBoghdady, *The Dawn of HD Radio*, Washington Post, Nov. 6, 2004, at E1. HD Radio broadcasting offers substantial benefits over traditional analog AM and FM radio, including:

- Increased signal clarity and fidelity, resulting in FM-quality sound over AM and near-CD-quality sound over FM;
- Capacity to broadcast up to 8 digital channels, in addition to the existing analog channel, on one FM frequency;
- The ability to provide additional data streams, such as real-time display of program, song title, artist, and album data; and
- The ability to provide a variety of enhanced digital services.

iBiquity and HD Radio technology trace their origins to 1991, when CBS, Gannett, and Westinghouse formed USA Digital Radio Partners, L.P., to explore opportunities for digital AM and FM radio. After several years of testing and development, the company originated In-Band On-Channel ("IBOC") technology, a method of broadcasting that enables digital signals to travel the airwaves alongside traditional analog signals. In 1998, USADR became a separate company, with investments by fifteen of the nation's leading broadcast groups. At the same time, Lucent Technologies was exploring digital radio technology through Lucent Digital Radio ("LDR"). LDR became a separate company in 1999, and in 2000 USADR and LDR merged to form iBiquity Digital Corporation.

iBiquity and its predecessors have spent more than $100 million on its research and development efforts. iBiquity's intellectual property portfolio includes over 120 patents related to HD Radio technology, along with copyrighted implementing software, know-how, and trade secrets. More than half of iBiquity's employees continue to be engaged in research and development. Terence O'Hara, *iBiquity Digital's Make-or-Break Point Approaches*, Washington Post, Feb. 28, 2005, at E1.

HD Radio broadcasting is a form of digital audio broadcasting ("DAB"). Unlike satellite radio, which is also digital, HD Radio broadcasting is used by terrestrial radio stations and is subscription-free to listeners. The technology offers significant advantages over traditional analog radio broadcasting. "The technology sends multiple

streams of data over very narrow frequencies to solve the problems of analog AM and FM reception. The streams are separately received, synchronized and assembled by the radio tuner." Glenn Fleishman, *Revolution on the Radio*, N.Y. Times, July 28, 2005. "HD Radio is capable of a great range with a small fraction of the power of analog radio." *Id.*

HD Radio broadcasting employs what is known as "In-Band On-Channel" technology. It "makes use of the existing AM and FM bands (In-Band) by adding digital carriers to a radio station's analog signal, allowing broadcasters to transmit digitally on their existing channel assignments (On-Channel) while simultaneously maintaining their analog service." *In re Digital Audio Broadcasting Sys. & Their Impact on the Terrestrial Radio Broadcast Serv.*, 72 Fed. Reg. 45670, 45671 (FCC Aug. 15, 2007) (final rule) ("DAB Final Order"). As described by the FCC:

> iBiquity's IBOC DAB technology enables radio stations to provide enhanced sound fidelity, improved reception, multiple audio streams, and new data services. It permits the transmission of near-CD quality audio signals on the FM band, and improved fidelity on the AM band, to digital-ready radio receivers along with information services, such as station, song and artist identification, stock and news updates, and local traffic and weather bulletins. These digital signals are free from the

> static, hiss, pops, and fades associated with the current analog system.

Id.

As with many new technologies, conversion of radio from analog to digital presents substantial logistical challenges. To begin with, there are more than 750 million radios in use in the United States that can receive only analog signals. *See* Paul Davidson, *Radio Ready to Join Digital Revolution*, USA Today, Aug. 24, 2005, at 1B. Unless broadcasters can broadcast digital and analog signals simultaneously, these analog receivers will become obsolete. HD Radio technology solves this problem by allowing broadcasters to transmit a digital signal along with the traditional analog signal using the same spectrum that was previously used for the analog signal alone. *See DAB Final Order*, 72 Fed. Reg. at 45671. HD Radio stations can broadcast their programming in both digital and analog formats without the necessity of reallocating spectrum to handle the increased capacity. *Id.*[2]

iBiquity's technology thus allows a seamless transition from analog to digital radio. Broadcasters can maintain the same radio frequency allocations and continue to broadcast analog signals to analog listeners, while HD Radio listeners will enjoy increased clarity and fidelity and the other benefits available from the technology.

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[2] If an HD Radio receiver loses the digital signal, it reverts to the analog version of the broadcast until the digital connection is reestablished. *DAB Final Order*, 72 Fed. Reg. at 45671.

iBiquity's HD Radio technology also allows the transmission of far more data than can be transmitted through analog-only broadcasting. This increased capacity can be used for "multicasting" (transmitting additional content on separate digital channels in addition to the main content stream) as well as advanced digital services.

HD Radio broadcasters are already making use of the enhanced capabilities of the technology. "National Public Radio's member stations have taken a leading role in multicasting." Paul Davidson, *Digital radio emerges into the future*, USA TODAY Aug. 24, 2005, at 1B. In September, 2005, Washington D.C.'s WAMU demonstrated the capabilities of HD Radio multicasting by providing "gavel to gavel" coverage of the Senate confirmation hearings for Chief Justice John Roberts on its HD-2 channel while simultaneously broadcasting analog and digital versions of its regular programming without interruption. *See* WAMU 88.5 American University Radio Demonstrates New Second Channel, http://wamu.org/about/press/september_9_2005.php (Sept. 9, 2005).

WAMU currently broadcasts in addition to its regular programming in analog and digital formats, programming on two additional HD Radio channels. WAMU's HD channel 88.5-2 plays bluegrass country music, while channel 88.5-3 provides programming not available on the main channel, including extended BBC news coverage, NPR's Talk of the Nation, and a "funky, eclectic blend of rock, country rock, blues, folk, and world music" during the overnight hours. *See* WAMU 88.5 HD Radio Channels, http://wamu.org/hd/. Of the 1533 stations

now broadcasting an HD Radio signal, 704 offer one or more HD Radio channels beyond their primary program lineup. This additional content is available free of charge to HD Radio listeners, and currently is commercial-free as well. *See* HD Digital Radio Alliance Renews Charter with Marketing Commitment that Takes Total to $680 Million, http://www.hdradio.com/i/Alliance_Charter.pdf (Oct. 15, 2007).

Broadcasters also are making use of HD Radio technology's increased data transmission capacity to offer additional advanced services for HD Radio listeners. One such feature is known as "iTunes® Tagging." This feature allows a listener to "tag" a song that he or she hears on the radio and later purchase the song on the internet from the iTunes website. HD Radio receivers with this feature connect to the user's iPod® personal media player. When the listener hears a song that he or she wishes to purchase, the listener presses a "tag" button on the receiver, and the radio saves the song's information on the iPod. When the listener next connects the iPod to a computer, he or she can then purchase tagged songs directly from iTunes, an online music store for the iPod.

Other planned advanced services include digital surround sound radio, the ability to rewind live audio broadcasts, real-time traffic information, storing and replaying audio broadcasts, multimedia support, an electronic programming guide, subscription services, and on-demand audio. *See* HD Radio Roll-out Update, http://www.ibiquity.com/i/october_2006.pdf at 20-22; *see also DAB Final Order,*

72 Fed. Reg. at 45677 (listing additional data services).

2. FCC's Authorization Of IBOC For Digital Radio. In 2002, the FCC approved iBiquity's IBOC technology for AM and FM digital radio broadcasts in the United States. *See In re Digital Audio Broadcasting Sys. & Their Impact on the Terrestrial Radio Broadcast Serv.*, 17 F.C.C.R. 19990 (FCC Oct. 11, 2002) ("DAB First Report & Order"); *DAB Final Order*, 72 Fed. Reg. at 45670. The FCC found that IBOC provides the best way to advance the Commission's goals "to foster the development of 'a vibrant and vital terrestrial radio service for the public,' and to ensure to the extent possible that existing broadcasters have the opportunity to implement" digital radio. *DAB First Report & Order*, 17 F.C.C.R. at 19993. The Commission found that IBOC "was supported by the broadcast industry and was the only approach that could be implemented in the near future." *DAB Final Order*, 72 Fed. Reg. at 45671. The FCC determined that a uniform approach for digital audio broadcasts "will facilitate an efficient and orderly transition to digital radio." *Id.* at 45672.

iBiquity has agreed to abide by the FCC's patent policy, which requires iBiquity to license all patents that are necessary for implementing IBOC broadcasting to all interested parties on reasonable and nondiscriminatory terms. *Id.* ("iBiquity has committed to license all patents necessary to implement NRSC-5"). The FCC recognized that licensees must "pay licensing fees to the patent holders." *Id.* at 45687. The FCC has undertaken to "monitor the behavior of the patent holders to

determine if the required licensing agreements are reasonable and non-discriminatory." *Id.* In 2007, after seeking comment on iBiquity's licensing practices, the Commission found "that iBiquity has abided by the Commission's patent policy up to this point in the DAB conversion process." *Id.*

3. Bringing HD Radio Technology To Market. Although "[t]he iBiquity system ... represents a remarkable technical achievement," *DAB First Report & Order*, 17 F.C.C.R. at 19995, some have argued that its "[a]doption has been slow, largely because of a chicken-and-egg problem: Radio stations didn't want to buy digital transmitters until more digital radios were on store shelves, and manufacturers were loath to produce the radios until there were more digital broadcasts," Paul Davidson, *Digital Radio Emerges Into the Future*, USA Today, Aug. 23, 2005, at 1B.

In order to transition to HD Radio technology, broadcasters must purchase new equipment and license the software necessary for encoding the digital waveform. On the receiving end, HD Radio technology requires a specialized processor to enable decoding of the digital signal, as well as the hardware necessary for all radios. Chip makers and receiver manufacturers had to take a studied risk to incur the startup costs for manufacturing these new products when the eventual success of HD Radio technology was uncertain.

4. iBiquity's Licensing Program. HD Radio technology can be incorporated into any device that receives radio broadcasts, including car radios, clock radios, tabletop receivers, and portable devices. It would not be practicable for iBiquity, a relatively

small company that is focused on research and development, to manufacture such a diverse array of products, or to meet the volume demand for radios. Instead, iBiquity licenses its technology to chip makers and receiver manufacturers.

"iBiquity is, in essence, an intellectual property company. It owns the patents on all the technology used, from the chips installed in the receivers to the software and gear used by broadcasters to transmit the signal." Terrence O'Hara, *iBiquity Digital's Make-or-Break Point Approaches*, Washington Post, Feb. 28, 2005, at E1. iBiquity's financial success thus depends on implementing a licensing program that complies with its obligation to license on reasonable and nondiscriminatory terms while fostering the availability of HD Radio receivers to consumers.

Given the unavoidable risk to chip makers and equipment manufacturers associated with building HD Radio receivers during the technology's early stages, iBiquity designed its patent licensing structure to limit this risk, and thus promote the introduction and expansion of its new technology.

iBiquity's patent licensing program limits manufacturers' risks in two ways. First, iBiquity divides the royalty for the full value of its invention across two different levels in the manufacturing chain. Second, iBiquity bears much of the risk itself by deferring its realization of a full royalty until a finished product reaches the market.

iBiquity divides the royalty for its inventions by separately licensing chip makers and receiver manufacturers. At the chip level, iBiquity minimizes

the chip makers' patent licensing costs by charging a reduced royalty rate in exchange for limited patent rights. The chip maker benefits from paying less and can offer its chips for less, making it more likely that receiver manufacturers will purchase the chips and the chip maker will realize a return on its investment.

This arrangement benefits the chip manufacturer directly by lowering its royalty, and also benefits the receiver manufacturer by lowering the cost of the processor it must incorporate into every HD Radio receiver. Moreover, the receiver manufacturer does not pay for the full value of iBiquity's invention because the royalty expense is shared with the chip makers.

This licensing structure allows iBiquity to bear some of the risk associated with HD Radio technology becoming successful. Receiver manufacturers defer making any royalty payments until the completed HD Radio receiver is actually sold. Because iBiquity does not realize the full value of its invention until a product reaches the market, the license structure shifts some of the risk that the receiver will not sell from the manufacturers back to iBiquity.

a. iBiquity's chip maker license. Every HD Radio receiver has a specialized processor that decodes the digital HD Radio waveform received over the airways. iBiquity's license to companies that produce these chips limits their rights under the licensed patents. The chip maker may manufacture HD Radio chips, but it may not use those chips for any purpose other than testing. In addition, the chip maker is not granted rights to sell the chips. The

licensee may sublicense its testing rights, but only if it provides the sublicensee with a specific notice of the limitations of the sublicense. The notice and iBiquity's chip maker license both state that there is no implied license to sell HD Radio chips, and that unauthorized sale of the chips, alone or as a component of another device, constitutes patent infringement.

Under the license, iBiquity reserves the right to license and receive a royalty from HD Radio receiver manufacturers (the chip maker's customers). The license specifically disclaims that any sublicense constitutes a sale that would exhaust iBiquity's patent rights, or confers any implied license on the sublicensee. Each licensed chip maker must acknowledge that it has not received full rights to use or sell HD Radio receivers, and that it cannot convey such rights to its customers.

b. iBiquity's receiver manufacturer license. iBiquity's receiver manufacturer license complements the chip maker license. Each licensee acknowledges that it does not receive an implied license to use or sell HD Radio chips from the chip maker, and instead receives only a sublicense of the rights granted under the chip maker's license. The license goes on to grant the receiver manufacturer a royalty-bearing license to make, use, or sell products incorporating the licensed HD Radio patents, but specifically identifies the license from iBiquity as the sole source of the right to use and sell the products. Accordingly, a sale under the receiver manufacturer's license exhausts iBiquity's patent

rights in the receiver.[3] Royalties under iBiquity's receiver manufacturer license are due only upon invoiced sale of licensed products.

The chip makers and receiver manufacturers that have licensed HD Radio technology from iBiquity are sophisticated businesses, and include Texas Instruments, NXP (formerly Philips) Semiconductor, Sony, Yamaha, Kenwood, and Audiovox, among others. iBiquity's patent licensing program allocates the risks inherent in developing an uncertain new technology among the parties who stand to gain or lose the most from that technology. Taken together, iBiquity's licenses allow manufacturers of HD Radio equipment to defer a substantial portion of the royalties due on iBiquity's patents unless and until the licensed product finds a purchaser.

SUMMARY OF THE ARGUMENT

iBiquity's patent licensing arrangement demonstrates the advantages of a two-tiered licensing program, and shows why the Court should not adopt an overly-expansive version of the patent exhaustion doctrine. Companies like iBiquity invest substantial resources in discovering and developing innovative new technologies. Such companies should be permitted to structure their patent licensing programs in ways that they and their licensees believe will best promote the further development and commercialization of their inventions.

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[3] Both the chip maker license and the receiver manufacturer license contain similar limitations with respect to iBiquity's copyrighted software.

A two-tiered licensing program such as iBiquity's affords companies seeking to introduce a new technology into the marketplace the ability to share the risks, as well as the rewards, of the new technology. Such licensing agreements benefit not only the parties to the patent licensing agreement, but also consumers and the national economy. There is no valid reason why this type of licensing agreement should be barred by the patent exhaustion doctrine.

ARGUMENT

The Patent Exhaustion Doctrine Should Not Be Expanded To Invalidate Patent Licensing Agreements That Mutually Benefit The Parties And The National Economy.

iBiquity's patent licensing arrangement provides an instructive example of the reasons why the Court should not adopt an overly-expansive interpretation of the patent exhaustion doctrine. This licensing structure, willingly entered into by numerous sophisticated companies, has enabled iBiquity to bring a new technology to market. Because this type of licensing structure serves "to promote the Progress of Science and useful Arts," U.S. Const. art. I § 8, it should be permissible under the patent exhaustion doctrine.

1. In bringing its breakthrough technology to market, iBiquity faced a significant challenge common to many inventors: It lacked the financial resources, capacity, and experience necessary to produce a range of new products, and so had to persuade other companies, including manufacturers

of chips and receivers, to invest in the technology before it had been accepted by, or even introduced to, consumers. If these manufacturing companies had been unwilling to invest the resources needed to produce HD Radio chips and receivers, iBiquity's technology might never have come to market.

iBiquity met this challenge by creating a two-tiered licensing program that reduces the licensee's risks of bringing a new technology to market by (1) spreading royalty costs among a larger group of companies in the manufacturing chain, and (2) deferring a substantial percentage of royalty costs until finished products are actually sold.

iBiquity has entered into separate licensing agreements with chip makers and receiver manufacturers. iBiquity grants chip makers a limited set of rights to make chips and to use them solely for testing purposes. iBiquity grants receiver manufacturers rights to make, use, and sell receivers embodying iBiquity's patents. The royalty paid by receiver manufacturers is based on units sold. Once it licenses receiver manufacturers, iBiquity considers its patent rights exhausted with respect to that manufacturer. It does not seek to collect any additional royalties from distributors, retailers, or consumers.

This two-level royalty structure has the effect of limiting the degree of risk assumed by any one company in the manufacturing chain. Because royalty costs are spread over the production process, chip manufacturers at the front end of the manufacturing process are able to assume less risk that the finished products will not be commercially successful. In addition, iBiquity itself shares some of

the risk of introducing the new technology, by deferring a substantial portion of the royalty it receives until a receiver unit is completed and actually sold.

Because iBiquity's licensing structure reduces the costs and risks of producing chips and receivers, manufacturers find it more attractive to invest in producing HD Radio products. If iBiquity were required by the patent exhaustion doctrine to collect a single royalty from chip makers (and no royalty from receiver manufacturers), it would significantly increase the cost of chips. Chip makers might well have viewed a license with a substantial up-front royalty as too expensive and risky. They may have decided not to take a license or produce any chips at all. If that had happened, HD Radio technology may never have come to market.[4]

Even if chip makers were willing to pay a high royalty in return for a license to produce chips, the resulting cost of the chips to receiver manufacturers might well have been too high to justify entering the market. Chip makers frequently price chips so as to recover a multiple of the cost of producing the chips. A substantial increase in the royalty cost to chip

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[4] Additional aspects of iBiquity's patents and patent licenses ensure the validity of its patent licenses even under the expanded version of the patent exhaustion doctrine advocated by petitioners. For example, many of iBiquity's patents read on receivers, not the chips, which are only a component of the finished product. Moreover, iBiquity's chip maker licensees do not receive the right to sell patented HD Radio technology. *See supra*, pp. 12-13. It is important to note, however, that the risk-sharing argument set out in this brief does not turn on these additional features.

makers thus could have resulted in a chip cost that exceeded the combined cost of the chip plus the receiver manufacturer's royalty. Receiver manufacturers could well have found the chips too expensive to justify an investment in producing receivers, particularly in the early stages of the technology, when sales of HD Radio receivers were just beginning. A rigid limitation on the licensing options available to patentees thus could have blocked HD Radio technology from getting off the ground.[5]

It is no answer to say that iBiquity could have charged a very low royalty, or no royalty at all, until it became clear whether HD Radio technology would succeed or fail. iBiquity and its corporate predecessors have invested over a hundred million dollars in developing the patented HD Radio technology, and iBiquity continues to employ numerous engineers and scientists to further develop the technology. If companies in iBiquity's position were limited to charging an artificially depressed royalty for a period of years, there would be less money to invest in research and development, and some highly beneficial innovations such as HD Radio technology might never be developed at all.

2. iBiquity's licensing arrangement benefits both the parties to the licensing agreement and

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[5] If chip makers realized that receiver manufacturers were unwilling to buy chips at a price that includes a full royalty plus the chip maker's mark-up, the chip maker would quickly cease producing chips, or would decline to produce them in the first place.

consumers. Licensees benefit because companies at different levels of the manufacturing chain are able to share the risks of producing a product that has not yet achieved widespread market acceptance. iBiquity's licensees are sophisticated businesses. Indeed, many are larger and more powerful than iBiquity. The fact that these sophisticated companies have structured their patent licensing agreements in this way is powerful evidence that a two-royalty structure is an efficient risk allocation structure that benefits the licensees.

A two-tier royalty system also benefits consumers, by encouraging manufacturers to produce products that embody innovative new technologies that otherwise might not make it to market at all. Once a new product is successfully introduced into the marketplace and purchased by a sufficient number of "early adopters," economies of scale can take hold and allow more units to be produced at a lower price, inducing more consumers to purchase the product.[6] But this "virtuous cycle" cannot take hold unless the initial products can be brought to market. iBiquity's patent licensing structure is an efficient way to overcome this barrier.

This approach also benefits consumers by reducing that portion of a finished receiver's selling price attributable to manufacturer markups. When

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[6] This has been true for HD Radio technology. The first HD Radio receivers marketed to consumers were priced from $500 to $1000; HD Radio receivers are now available for as little as $119. *See* John R. Quain, *Tuning in to HD radio*, U.S. News & World Report, June 14, 2004; Amy Gilroy, *HD Radio: Will More Awareness Translate To Sales?*, TWICE, Dec. 3, 2007.

a chipmaker determines the selling price of a chip, it imposes a markup based on its costs, including any royalty it must pay. The receiver manufacturer in turn imposes its own markup based on its costs, including the cost of the chip. The royalty at the chip level is therefore marked up twice by the time a finished product reaches a consumer. Minimizing the royalty at the chip level therefore minimizes the pass-through cost of the royalty to consumers.

iBiquity's licensing program also has provided consumers with a wider choice of products in the marketplace, because iBiquity was able to enter into agreements with multiple chip makers and receiver manufacturers. If iBiquity had been required to collect a single royalty, many manufacturers might have declined to enter into licensing agreements with iBiquity, resulting in fewer choices to consumers – or no choices at all.

3. iBiquity's licensing structure demonstrates the procompetitive results that can be achieved through a multi-level licensing approach. Petitioners and some amici, however, suggest that there is no legitimate reason for a patentee to divide its royalties across multiple levels. *See, e.g.*, Pet. Br. at 49 ("There is only one reason why a patentee might want to parcel its royalty out between different levels of the distribution chain: to prevent arbitrage . . . ."); Br. of Amer. Antitrust Inst. at 27 (the Federal Circuit's decision "impair[s] competition and innovation").

Amici Dell et al. in particular insist that "[n]o business contemplating manufacture or use of an article that infringes a patent would enter into a licensing agreement with—and pay significant value

to—a patent owner, when that businesses' customers could not use or sell the resulting products without negotiating a separate license with the patent owner." Br. of Dell et al. at 13. But iBiquity's licensees have entered into precisely such an arrangement, and have found it to be in their economic interests.

Petitioners' amici also make the sweeping assertion that the Federal Circuit's approach in this case "is not necessary to enable patent owners to obtain full compensation for use of their invention." *Id.* at 4. This argument ignores the risk-sharing and other advantages of a royalty-splitting arrangement that inure to licensees of new technology that requires multiple layers of manufacturing. Patent owners cannot obtain "full compensation for use of their invention" if the economics of the product would prevent manufacturers from entering into a manufacturing license in the first place.

To the extent there is any concern that a multi-level licensing structure might be anticompetitive, that concern is addressed by existing mechanisms apart from the patent exhaustion doctrine. Every patent license remains subject to scrutiny under the antitrust laws. In addition, markets can be self-regulating. For example, when the FCC authorized IBOC for digital radio broadcasting, iBiquity agreed to license all of its patents that are necessary to implement this technology to any interested party on reasonable and nondiscriminatory (RAND) terms. iBiquity's agreement to license its patents on RAND terms is not unusual. Many companies make the same commitment when their technologies are adopted as

industry standards. This type of reasonable commercial behavior – by both patent owners and the other companies in the industry adopting the technology as a standard – demonstrates that the marketplace can and does self-regulate to achieve procompetitive results that benefit the patent owner, its licensees, and consumers.

In sum, an overly-aggressive approach to patent exhaustion is unnecessary, and in fact would be counter-productive. There is no need to expand the judge-made doctrine of patent exhaustion to invalidate licensing agreements willingly entered into by both parties to their mutual benefit, and to the benefit of consumers and the national economy.

CONCLUSION

The judgment of the court of appeals should be affirmed.

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